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# CLIMATE CHANGE PLANNING FOR THE NEZ PERCE TRIBE

2017 Rights Protection Implementation - Climate Change



**Project Title:** Climate Change Planning for the Nez Perce Tribe

**Tribe:** Nez Perce Tribe

**Project Leader/Staff Contact:** Stefanie Krantz, Climate Change Coordinator, [stefaniek@nezperce.org](mailto:stefaniek@nezperce.org), 208-621-3887

**Project Location:** The project will be administered from Lapwai, Idaho, and will continue evaluating and planning for the effects of climate change throughout the Nez Perce Tribe area of use and zone of influence including the 1855 Treaty boundary, 1863 Treaty area, the Indian Claims Commission Boundary (ICC), and Treaty areas reserved for fishing and bison hunting.

## INTRODUCTION AND BACKGROUND

In 2016, the Nez Perce Tribe (Tribe) received Rights Protection Implementation funding to hire a Climate Change Coordinator to work on a vulnerability assessment and climate adaptation plan. The Climate Change Coordinator (Coordinator) started work in December 2016, and focused on building a climate change program. On August 25, 2017, we submitted an annual report detailing our progress thus far. We are proposing to expand upon our existing project to assess and address existing and potential climate change impacts to all natural resources within the Tribe's Treaty boundaries.

During the first half of 2017, the Coordinator determined the key elements necessary for an effective climate adaptation plan by engaging with stakeholders, tribal staff, and the Nez Perce Tribe's Climate Change Task Force; reviewing existing tribal planning and program activities; and reviewing the vulnerability assessments and climate adaptation plans of other tribes in the region. The following key elements and needs were identified:

1. Education and outreach about climate change, sustainability, and climate change mitigation;
2. An inclusive, culturally sensitive planning process that includes the tribal public and resource managers;
3. An integrative planning process across the Tribe's Natural Resources and Fisheries Divisions;
4. An adaptive management process for climate change planning;
5. A list of planning focal areas including all natural resources: fish and fisheries, wildlife, air quality, cultural resources and cultural knowledge, rare plants, cultural plants, commercial agriculture, sustainable food systems, human health and socio-economics;
6. An update to the Forestry, Water, and Economics portions of the 2011 Clearwater Subbasin Adaptation Plan;
7. Downscaled climate data for the Indian Claims Commission area, and data for the areas where Fisheries works outside of the ICC;
8. Data on potential hydrologic change, ecosystem/biogeographic shifts, habitat changes;
9. Planning tools for integrating climate smart practices to prioritize limited funds for restoration projects;
10. Increased capacity for addressing alternative energy, solid waste, and local food system issues as part of implementation;
11. Information about adaptation actions that are both adaptive and mitigating so that the tribe can help to solve the issue of climate change while adapting to it;

12. A structured planning process with timelines and goals broken down into the following three steps: a) producing a vulnerability assessment, b) producing a climate adaptation plan, and c) implementation;
13. Additional funding to complete the full vulnerability assessment and adaptation plan and for implementation projects.

Though significant progress has been made towards the development of a vulnerability assessment and climate adaptation plan, the time available on current funding is insufficient to develop a plan that has the necessary depth for long-term applicability. We are applying for an additional year of funding to complete our climate adaptation planning process in two steps: 1) Finish a vulnerability assessment; and 2) Write a climate adaptation plan based on the results of the vulnerability assessment. In addition, we are applying for staff time to support an implementation action: the development of Restoration Toolkit for Ecological and Cultural Resilience based upon Point Blue Conservation Science's Climate Smart Restoration Toolkit.

## GOALS AND OBJECTIVES

The primary goal of this project is to improve the capacity of the Nez Perce Tribe to adapt to current and future climate change challenges. The primary objectives are to assess the vulnerability of Treaty resources, create a strategic plan that confronts the threat of climate change, and create planning tools that assist managers in making climate smart restoration decisions. In addition, this process is part of a Tribe-wide planning process to integrate planning efforts. This project will collaboratively develop a holistic vulnerability assessment, climate adaptation plan, and a climate smart restoration toolkit. Other objectives include integrated planning processes across tribal divisions for climate change mitigation and adaptation, increased understanding of climate change and its impacts to natural and cultural resources, an understanding of the concerns of the tribal public, and concrete management recommendations. The Climate Team's approach is rooted in participatory and collaborative processes that include collaborative production and dialogues, survey data collection, and ethnographic story telling. The goals will be accomplished through dynamic solution oriented processes that integrate western science and traditional knowledge.

## METHODOLOGY

The following is a brief synopsis of the methodology for each project goal, our progress to date, and a list of expected deliverables.

**Goal:** Participatory planning processes that engage and empower the tribal community in just and practical ways.

**Deliverables:** a) A series of workshops, focus groups, and interviews to be completed and integrated into plan, and b) survey and survey results.

**Progress to date:** The climate change survey has been created and distributed (<https://redcap.northwestknowledge.net/surveys/?s=C8FD8MF8P3>). Preliminary results show that the Tribal public and Tribal staff members are very concerned about climate change and want more information. Discussions with cultural resources staff have been taking place to determine how to conduct elder interviews. The Climate Team has met with key tribal staff in the Cultural Resources, Wildlife, Forestry, and Water Resources Divisions.

**Methods:** The climate change survey data will be analyzed with basic descriptive statistics, cross tabular comparisons, and hypothesis testing. Summaries of the results will be made available to survey participants and the Tribal public. The climate change team will interview tribal elders, the Circle of Elders, and will select a subset of survey respondents who expressed an interest in discussing their concerns with the Climate Team further. In addition, community engagement will expand to include workshops and focus groups with more community members and tribal employees. We believe that this kind of community engagement is a critical piece of education and outreach, and the development of a successful climate adaptation plan with enough community support for adoption.

**Goal:** Develop a vulnerability assessment that integrates traditional knowledge and western science.

**Deliverables:** a) Climate change impact data relevant to the work of the Tribe and its partners, b) vulnerability assessments for wildlife and plant species that are important to the Tribe, and c) socioeconomic projections useful for the Tribe's economic development planning.

**Progress to date:** The vulnerability assessment has been outlined and four sections are being drafted. Climate data for the ICC area has been processed for eight variables, and the climate projections section is being drafted. Data sources have been identified for the assessment. We are working with Climate Impacts Group to see if they can provide some downscaled data for us. The Columbia River Intertribal Fish Commission has provided maps for the areas of interest to Fisheries. The BIA Tribal Resilience Program has also offered GIS support, and we are identifying ways to collaborate with their staff.

**Methods:** The vulnerability assessment will include chapters on fisheries, wildlife, agriculture, cultural resources, public health, rare and cultural plants, forestry, water resources, and socioeconomics. The climate team will review published literature, government reports, and vulnerability assessments from Tribes in the Pacific Northwest, and speak to experts and Tribal elders, staff scientists, managers, and field personnel to gather information. Climate data will be processed and visualized for the ICC area. The Climate Team will generate a list of species to focus on through meetings with personnel from Wildlife, Fisheries, Forestry, and Cultural resources and utilize the survey and interview data to narrow down the number of species to analyze. The Nature Serve Climate Change Vulnerability Index will be selected to examine vulnerability for a list of focal species. A vulnerability matrix will be developed to evaluate risks for decision making purposes. The results will be summarized in a Vulnerability Assessment Report and made available on our website.

**Goal:** Develop a climate adaptation plan.

**Deliverable:** Final draft of plan with recommendations and supporting evidence.

**Progress to date:** The Climate Team has selected a format for the plan, and created a draft outline and timeline.

**Methods:** The climate adaptation plan will include the same planning topics and chapter layout as the vulnerability assessment. Each planning topic will include an introduction, a brief overview summary of the vulnerabilities discussed in the vulnerability assessment, what is already being done, and recommendations for future actions. The plan will also include information about actions that are adaptive and mitigating either as vignettes with each planning topic or a separate chapter. The plan will be developed collaboratively with staff scientists and resource managers, the cultural resources staff, and the Climate Change Task Force.

**Goal:** Provide education about the impacts of climate change to tribal members and staff.

**Deliverables:** Outreach brochures, M.S. PowerPoint presentations, newspaper articles, and website

**Progress to date:** Outreach brochures with general information about climate change and a Climate 101 M.S. PowerPoint presentation has been created and distributed. A simple webpage has been created. Three events have been tabled by the Climate Team.

**Methods:** Outreach brochures will be created with information gained from the vulnerability assessment and plan that provide more specific information about local impacts. The results of the vulnerability assessment will be shared via PowerPoint presentations and on our website. Tabling at local outreach events will continue.

**Goal:** Modify and calibrate Point Blue's Climate Smart Restoration Toolkit for use in restoration implementation (<http://www.pointblue.org/our-science-and-services/conservation-science/habitat-restoration/climate-smart-restorationtoolkit/>).

**Deliverables:** Toolkit and How-to Brochure

**Progress to Date:** We have applied for an EPA grant to provide additional partial funding for this project, and searched for other sources of matching funds. We have identified sources of data for the toolkit. We are including in the budget for this proposal to hire one climate specialist full time to continue work on this project with the Coordinator.

**Methods:** The Climate Specialist and Coordinator will coordinate with Point Blue Conservation Science to develop the toolkit. The toolkit is based upon climate analogues. Dr. Abatzoglou at the University of Idaho is creating climate analogue data for the United States. This information will be used to generate reference sites. Plant lists

and plant attribute data will be gathered for the toolkit through researching the published literature and speaking with restoration ecologists and technicians at the Tribe and in the region. Metadata categories will be defined and metadata will be collected for trees, shrubs, and forbs. Field trials will be conducted to test the toolkit and modify it as necessary. The toolkit will be modified to include cultural values in a way that protects culturally sensitive information for internal use by restoration practitioners at the Tribe. The methodology for including cultural values in the toolkit may be made available to other Tribes by request at the discretion of the Cultural Committee and Cultural Resources Staff, but the protection of cultural knowledge is central to the success of this project so there is no guarantee that this portion of the toolkit will be shared externally.

## OUTCOME AND RESULTS

The most important expected outcomes of this project are an increased understanding of climate impacts to Treaty natural resources, and increased knowledge about the challenges and opportunities for addressing climate change. This understanding and knowledge will be integrated into future and ongoing Tribal planning efforts including the following: Integrated Resource Management Plan, Wildlife Conservation Plan, Fisheries Management Plan, All Hazards Mitigation Plan, Forestry Plan, Wetlands Plan, Air Quality Plan, and Strategic Energy Plan. Please see the list below for a comprehensive list of outcomes and measures:

Outcome 1: A comprehensive vulnerability assessment for treaty resources.

Measure: The final document and how the information is utilized to develop the final plan, and utilized by Tribal staff for planning purposes.

Outcome 2: Robust and practical climate adaptation plan.

Measure: The final plan and how its suggestions are considered during planning and implementation processes.

Outcome 3: Increased community capacity and resilience.

Measure: Engagement with community, support for and collaboration with existing community efforts such as the Lapwai community garden, Local Foods Local Places initiative, etc.

Outcome 4: Increased communication and collaboration among tribal departments and divisions.

Measure: Occurrence of integrated meetings, collaborative development of integrative plans and projects.

Outcome 5: More integrative, adaptive management of natural and cultural resources.

Measure: Development of integrative plans and projects, the explicit inclusion of climate change and its impacts in planning and implementation processes.

Outcome 6: A climate and culturally smart restoration toolkit for land managers and restoration practitioners to utilize in northern Idaho.

Measure: The Toolkit itself and how it is utilized by tribal divisions.

Outcome 7: A model for adapting climate smart principles and the climate-smart toolkit to tribal concerns

Measure: Write up of the process of developing the Toolkit to be made available for other Tribes to consult, and presentations at future climate change summits and conferences.

Outcome 8: An increased understanding of the socioeconomic issues involved with climate change.

Measure: The incorporation of climate projections into future economic planning efforts.

Outcome 9: Concrete goals and steps to help fish, wildlife, and plants adapt to climate change.

Measure: Implementation of goals.

Outcome 10: A list of priority cold-water refugia areas for fish to target for restoration projects.

Measure: Efforts to restore fish habitat within cold water refugia areas.

Project Timeline	Oct	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	
Milestones	FY17	Fiscal Year 18: Year 1												Fiscal Year 19: Year 2													
<b>Vulnerability Assessment</b>																											
Finish processing climate data (EW)																											
Finish collecting fish relevant data (SK, EW)																											
Draft introductory climate projections sections (EW)																											
On-line survey collection																											
Analysis of survey data (AZ, BWH)																											
Finish drafting tribal history section (AZ)																											
Conduct and transcribe elder interviews (AZ)																											
Evaluate priority wildlife species with CCVI index (EW, SK)																											
Evaluate priority plant species- vulnerability index (SK)																											
Fisheries staff interviews (SK, Fisheries)																											
Update Water Resources Section/draft wetlands sections																											
Summarize agricultural projections (SK, BWH, EW)																											
Plan/execute workshops for tribal staff and public																											
Prepare vulnerably matrix w/ western science and TEK																											
Draft Fisheries section (SK, Fisheries)																											
Draft Socioeconomics sections (AZ, SK)																											
Draft Forestry and Agriculture Section (BWH, SK, EW)																											
Draft Wildlife Section (EW, SK)																											
Draft Rare and Cultural Plants Section (SK)																											
Draft Air Quality and Public Health Sections (SK, AQ)																											
Draft Cultural Resources Section (AZ)																											
Search for and apply for funding for implementation (All)																											
Extra time for review, graphics, and the unexpected																											
<b>Climate Adaption Plan</b>																											
Introductory Sections & Planning Topics Introduction (AZ)																											
Fisheries (SK)																											
Wildlife (SK)																											
Plants (SK)																											
Water and Wetlands (SK)																											
Cultural Resources (AZ)																											
Agriculture and Forestry (SK)																											
Socioeconomics (AZ)																											
Public Health (AZ, SK)																											
Extra time for review, graphics, and the unexpected																											
<b>Climate Smart Restoration Toolkit</b>																											
Coordinate with Point Blue to define metadata categories																											
Collect metadata for trees, shrubs, and forbs (SK, EW)																											
Gather cultural traits of plants (SK, AZ)																											
Calibrate ecological resilience traits for toolkit (SK, AZ)																											
Develop cultural performance chart for toolkit (SK, AZ)																											
Create how to guide for toolkit & run trials (SK, AZ)																											

SK=Stefanie Krantz, EW = Eric Walsh, AZ = Amber Ziegler, BWH = Rebecca Witinok-Huber, AQ=Air Quality. WL=Wildlife

## CLOSING STATEMENT:

Tribal staff and community members are integral to the resilience and sustainability of natural and cultural resources. This project seeks to incorporate community voices and traditional knowledge in order to prioritize vulnerabilities and develop an adaptation plan that holistically addresses tribal interests and concerns. Skill sets among our Climate Change Team reflect equal depth in technical climate science and community-based participatory social science techniques that include different ways of knowing, and are required to develop and implement a unique and inclusive plan. Our approach has the ability to set a precedent toward the inclusion of traditional knowledge when solving current and planning for future climate change scenarios. Inclusive and cutting edge efforts around climate change adaptation require increased time and resources, for this reason, our efforts require additional funding.

An extended timeline and increased staff capacity will allow for the development of a more comprehensive vulnerability assessment leading to an actionable mitigation and adaption plan. Additional funding will also increase opportunities for community engagement through a holistic process oriented around achieving robust and sustainable project goals. Addressing the complexities of the Nez Perce community's social and environmental challenges holistically, including interactions and relationships, will allow our process to delve deeper into the various components of climate change adaptation in an effort to best provide concrete suggestions for economic development and increased food sovereignty, among others.

## BUDGET:

<i>Budget Item</i>	<i>Proposed Budget</i>	<i>Comments</i>
Salaries	\$63,345.70	90% of position: 26 pay periods, grade 23, step 1, +3% COLA; 40% of position: 26 pay periods, grade 20, step 1, +3% COLA
Fringe Benefits	\$63,537.20	26 pay periods, ~family medical rate for two staff members
Travel	\$13,528.00	National Adaptation Forum (2 staff: Registration: \$625, Hotel 3 nights \$475, Travel \$550, Per diem \$256): \$3812.00 NW Climate Conference (1 staff: Hotel 3 nights \$400, Travel \$200, per diem \$256): \$991.00 Tribal Climate Summit (2 staff: Hotel \$475, Travel \$307, Per diem \$256): \$2026.00; ITEP Training (2 staff: Hotel \$300, Travel \$275, Per diem \$236): \$1622.00; ITEP Tribal Lands Forum (1 staff, Registration: \$150, Hotel \$300, Travel \$390, Per diem \$204): \$1044.00; Climate Smart Conservation Training (1 staff, Registration \$995, Hotel \$530, Travel \$200, Per diem \$256): \$1981.00; Rising Voices (2 staff, Hotel \$420, Travel \$370, Per diem \$236): \$2052.00
Supplies	\$3,639.10	Outreach and Education: \$900.00 Office Supplies: \$239.10 Staff Computer: \$2500.00
GSA Lease/Repair	\$950.00	\$950.00
Subcontracts	\$5,000.00	Point Blue (Climate Smart Restoration Toolkit)
<b>Total Costs:</b>	<b>\$150,000.00</b>	

## LETTERS OF SUPPORT/CONTRIBUTIONS:

Please see attached letters of support and contributions.